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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/651,159	08/30/2000	Ole Bentz	MTI-31072	2115

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MILWAUKEE, WI 53202

EXAMINER

DO, CHAT C

ART UNIT	PAPER NUMBER
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2124

DATE MAILED: 03/15/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/651,159

Applicant(s)

BENTZ, OLE

Examiner

Chat C. Do

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4, 5, 7-12, 16, 17 and 20 is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 13-15, 18 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This communication is responsive to Amendment A, filed 1/16/2004.
2. Claims 1-20 are pending in this application. Claims 1-4, 6-7, 13, and 15 are independent claims. In Amendment A, claims 1-4, 6-7, 13, and 15 are amended. This action is made final.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 6, 13-15, and 18-19 are rejected under 35 U.S.C. 103(a) as being obvious over the admitted prior art in view of Suzuki (U.S. 5,260,890).

Re claim 1, the admitted prior art discloses in Figure 1 a method of detecting overflow in a clamping circuit comprising the steps of: inputting a first operand having a first fixed-point format (2) into the clamping circuit (the rest of circuit); inputting a second operand (4) having a second fixed-point format into the clamping circuit (the rest of circuit); determining an overflow output (10) based upon the first and second fixed-point format and predicting whether an arithmetic operation of the first operand with the second operand will yield a result that exceeds the overflow output (output of 10); and performing at least partially the arithmetic operation of the first and second operands (6). The admitted prior art does not disclose the determining and predicting step occurs

independent from and substantially in parallel with the performing step. However, Suzuki discloses in Figure 2 an overflow detector that is capable of determining an overflow output independent from and substantially in parallel with the performing step (abstract). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add the overflow detector that is capable of determining an overflow output independent from and substantially in parallel with the performing step as seen in Suzuki's invention into the admitted prior art's Figure 1 because it would enable to detect the overflow earlier than an arithmetic (abstract last 3 lines) output which improves the system performance.

Re claim 2, it has the same limitations as cited in claim 1 wherein the admitted further discloses in Figure 1 that the arithmetic operation is multiplication (ALU). Thus, claim 2 is also rejected under the same rationale in the rejection of rejected claim 1.

Re claim 3, Rim discloses in Figure 3 a method of clamping fixed-point multipliers: providing a first operand in a first fixed-point format (2); providing a second operand in a second fixed-point format (4); at least partially multiplying the first operand with the second operand to produce an operation result (6 e.g. multiplication); determining whether the operation result will exceed a representable value (10); determining a clamping value based on the first fixed-point format of the first operand and the second fixed-point format of the second operand (12); and substituting the operation result with the clamping value (16) when it is determined that the operation result will exceed the representable value (through 18). The admitted prior art does not the multiplying step and determining whether the operation result will exceed the

representable value step occur independently and substantially in parallel. However, Suzuki discloses in Figure 2 an overflow detector that is capable of determining an overflow output independent from and substantially in parallel with the performing step (abstract). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add the overflow detector that is capable of determining an overflow output independent from and substantially in parallel with the multiplication step as seen in Suzuki's invention into the admitted prior art's Figure 1 because it would enable to detect the overflow earlier than an arithmetic (abstract last 3 lines) output which improves the system performance.

Re claim 6, it has the same limitations as cited in claim 1. Thus, claim 6 is also rejected under the same rationale in the rejection of rejected claim 1.

Re claim 13, it has the same limitations as cited in claim 1. Thus, claim 13 is also rejected under the same rationale in the rejection of rejected claim 1.

Re claim 14, it has the same limitations as cited in claim 1. Thus, claim 14 is also rejected under the same rationale in the rejection of rejected claim 1.

Re claim 15, it is a circuit claim of claim 1. Thus, claim 15 is also rejected under the same rationale in the rejection of rejected claim 1.

Re claim 18, the admitted prior art in view of Suzuki do not disclose at least one of the registers is a flip-flop. However, the examiner takes an official notice that the flip-flop register is well known in the art for temporary storing and latching the data.

Therefore, it would have been obvious to a person having ordinary skill in the art at the

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time the invention is made to add flip-flops registers into the admitted prior art in view of Suzuki's invention because it would enable to latch dynamically the data into circuit.

Re claim 19, it is a circuit claim having a limitation cited in claim 1. Thus, claim 19 is also rejected under the same rationale in the rejection of rejected claim 1.

Allowable Subject Matter

5. Claims 4-5, 7-12, and 20 are allowed.
6. Claims 16-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments with respect to claims 1-3, 6, 13-15, and 18-19 have been considered but are moot in view of the new ground(s) of rejection.
 - a. The applicant did not file any additional Communications on or about 9/9/00 or 7/19/01 and the Examiner indicated an objection to the specification in the previous Office action without any objection in the written Response. The applicant requests for clarification on both of these points.

The examiner respectfully submits that there were a Power of Attorney by Assignee filed in 9/9/00 and Change of Address filed in 7/19/01. There was a mistake by indicating an objection to the specification in the previous Office action.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (703) 305-5655. The examiner can normally be reached on M => F from 7:00 AM to 4:30 PM.

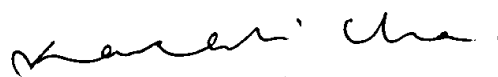
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (703) 305-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do
Examiner
Art Unit 2124

March 2, 2004


KAKALI CHAKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100